Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Replacement of Part 90 by Part 88	)	
to Revise the Private Land Mobile	)	PR Docket No. 92-235
Radio Services and Modify the	)	
Policies Governing Them	)	

COMMENTS OF ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC.

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Dated: May 28, 1993

SUMMARY

In these comments, MSTV endorses the Commission's proposed refarming of land mobile spectrum below 512 MHz. MSTV wholeheartedly supports the Commission's efforts to promote the efficient use of land mobile spectrum through the use of commercially available technologies, such as ACSB, 6.25 KHz narrowband FM, and digital modulation.

Land mobile system operators can achieve significant spectrum savings under the Commission's plan. Indeed, the Commission's reforms will produce a 300 to 500 percent increase in land mobile's channel capacity, thereby meeting land mobile's spectrum needs for both the present and the foreseeable future. The Commission should move forward expeditiously to implement its refarming program.

Although MSTV enthusiastically endorses the

reductions in land mobile broadcast field strength, and consolidation of the Commission's land mobile user categories. However, MSTV urges the Commission to consider the use of minimum loading requirements in addition to these reforms. Minimum loading requirements are essential if the Commission wishes to ensure that land mobile spectrum is utilized efficiently.

Finally, the Commission should terminate the proceedings it instituted regarding additional sharing of television broadcast spectrum with land mobile users. Moreover, it seems clear that the time has come for the Commission to revisit the necessity of continued "sharing" in the 470-512 MHz band. Sharing in this band was never intended

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FCC 92-469

In the Matter of	)	
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Replacement of Part 90 by Part 88 to Revise the Private Land Mobile Radio Services and Modify the Policies Governing Them	)	PR Docket No. 92-235

COMMENTS OF ASSOCIATION FOR MAXIMUM SERVICE TELEVISION, INC.

The Association for Maximum Service Television, Inc. ("MSTV") hereby files comments to the Notice of Proposed Rule Making, PR Docket No. 92-235, released in the above captioned docket on November 6, 1992 ("Notice").[1/]

COMMENTS

I. More Efficient Use of Land Mobile Spectrum is Essential.

MSTV strongly supports the Commission's proposed refarming of the land mobile spectrum below 512 MHz and its proposal to increase spectrum efficiency in land mobile bands through the use of narrowband technologies. MSTV urges the Commission to consolidate private land mobile service categories and to adopt the technical and operational rules

and has specifically urged the Commission to investigate methods of improving the efficiency of land mobile spectrum use.[2/] MSTV has demonstrated repeatedly that land mobile system operators could more efficiently utilize their allocated spectrum. Comments of MSTV, PR Docket No. 84-232, at 17, 26-27 (Nov. 19, 1985); Comments of MSTV, Gen. Docket No. 84-1233, at 1-3 (April 22, 1985); see also Hatfield II, at 13-20.

Obviously, the public interest is best served by requiring operators of land mobile radio systems to use the spectrum currently allocated for their operations in the most efficient manner possible. The efficient use of spectrum benefits all users, including the land mobile system operators themselves.

A. Implementation of the Commission's Proposed Reforms Can Be Accomplished Merely By Utilization of Well-Established Technologies.

The reforms the Commission is championing will increase channel capacity in land mobile spectrum by 300 to 500 percent. Hatfield I, at 37, 53-54; Hatfield II, at 14;

[2/] See Reply Comments of MSTV, PR Docket No. 91-170 (March 16, 1992); Further Reply Comments of MSTV, General Docket No. 85-172 (July 31, 1987); Comments of MSTV, PR Docket No. 84-232 (Nov. 19, 1985); Comments of MSTV, Gen. Docket No. 84-1233 (April 22, 1985); see also G. Hamilton, G. Ax, D. Hatfield, & A. Miller, "A Plan for Meeting Public Safety Community Mobile Communications Requirements Through New Technologies and Advanced Spectrum Management Techniques" (August 1983) (Hatfield II); D. Hatfield, G. Ax, & A. Miller, "The Role of New Technologies and Spectrum Management in Meeting the Demand for Private Land Mobile Radio Telecommunications Capacity" (November 1982) (Hatfield I).

cf. R. Matheson, NTIA/ITS, Spectrum Conservation: Adjusting to an Age of Plenty (July 1992); NTIA, U.S. Department of Commerce, NTIA Spec. Pub. 91-23, U.S. Spectrum Management Policy: Agenda for the Future (Feb. 1991). Despite the enormity of these potential gains, they are not the least bit speculative; they will not require land mobile system operators to engineer new technologies and systems, but rather will simply require them to incorporate a technology and systems that have been readily available for many years.

Narrow band technologies, such as ACSB, 6.25 KHz narrowband FM, and digital modulation, have been in existence since the mid-1970s.[3/] ACSB equipment has been commercially available at competitive prices since the mid-1980s. P. Gieseler, Implementing New Technology in the Land Mobile Radio Services 26-27 (1983); see Comments of MSTV, PR Docket 84-232, at 17 & 17 n.1 (Nov. 19, 1985); see also Hatfield II, at 15 & 15 n.10, 26. Indeed, as early as 1978, Commission staff members recognized that narrowbanding land mobile channels could be accomplished through the use of ACSB-based equipment. Gieseler, Implementing New Technology, at 26-27. The Commission Staff reported in 1983 -- some ten years ago -- that "it is broadly conceded that single sideband modulation

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[3/] Of course, the idea of a system like ACSB is significantly older still. In 1958, pioneering scientists posited the possibility of narrowband radio equipment. Hatfield II, at 14 & 14 n.9 (citing W. Firestone & H. Magnuski, "Application for Single Sideband for Mobile Communications," IRE Trans. on Vehicular Communications 48-54 (July 1958)).

can permit more intensive spectrum use than [25 KHz] FM." Id. at 27. In the very same report, the staff concluded that it would be possible to obtain "thousands of additional channels" by converting to narrower bandwidths. Id. at 28.

Because the proposed reforms are not technology forcing, the Commission should impose a relatively rapid implementation schedule.[4/] Moreover, the Commission should impose the most rapid implementation schedule on major metropolitan areas, thereby relieving overcrowding in the areas that are most congested.

[redacted]

frequencies.[5/] In areas where crowding is less pronounced, the imperative for reform is less immediate, though not less compelling.

B. The Commission's Proposed Course of Action is Fundamentally Sound and Should Be Implemented Expeditiously.

The Commission's proposal to mandate narrowband technology will serve an important role in the Commission's continuing efforts to ensure that all spectrum be utilized fully. Many land mobile system operators continue to claim that insufficient channel capacity exists to handle existing demand.[6/] The Commission's proposal to move from 25 KHz channel spacing to 6.25 KHz spacing in the 421-430, 450-470, and 470-512 MHz bands and to 5 KHz spacing in the 72-76 and 150-174 MHz bands, see Notice, at ¶ 8, is directly responsive to land mobile system users' requests for additional capacity.

enjoys the support of a majority of the land mobile community.[7/]

However, mandating the use narrowband channels is only one part of the solution to overcrowding in the land mobile spectrum. The imposition of minimum loading requirements is an essential corollary policy. It makes little sense to address the wasteful use of spectrum in 25 KHz bandwidths by creating more channels and then allowing these new channels to lie fallow, or to be used inefficiently. See Notice of Inquiry, Docket No. 21229, 42 Fed. Reg. 26030, 26031 (1977). Minimum loading requirements are necessary to ensure that refarming not only eradicates the wasteful allocation of spectrum, but also to ensure the efficient use of the newly available spectrum.[8/]

The Commission seeks comment on whether it should consolidate the present nineteen land mobile user categories into three broad categories. Notice, at ¶¶ 14-17. MSTV

[7/] See, e.g., Comments of LMCC, PR Docket No. 91-170, at 3-4 (Jan. 15, 1992); Comments of the Utilities Telecommunications Council, PR Docket No. 91-170, at 46 (Jan. 15, 1992); Comments of NTIA, PR Docket No. 91-170, at 1-5 (Jan. 15, 1992), Comments of the Telecommunications Industry Association, Mobile Communications Division, Land Mobile Section, PR Docket No. 91-170, at 1-3 (Jan. 15, 1992).

[8/] The Commission seeks comment on the desirability of providing exclusive channel assignments to land mobile operators who begin operating on narrowband widths quickly. Notice, at ¶ 11-12. MSTV does not oppose exclusivity, provided that exclusivity is tied to minimum loading requirements; exclusive channels that are under-utilized should not be permitted. As set forth above, the only effective way to avoid under-utilization of the new narrowband channels is to impose minimum loading requirements.

supports such consolidation efforts because they will likely result in more efficient use of the land mobile spectrum.

MSTV does not have a strong preference as between the two specific proposals suggested in the Notice. Notice, at ¶ 17. On the one hand, MSTV believes that consolidation of all current services into three broad categories (Public Safety, Non-Commercial, and Specialized Mobile Radio) with a residual category could result in maximum utilization of available spectrum by reducing the transaction costs that arise from the present system of negotiated spectrum sharing between users within the current nineteen categories. On the other hand, such an approach might disrupt current sharing arrangements, some of which no doubt promote the efficient use of spectrum. It seems unlikely, however, that in the aggregate the efficiencies realized from such sharing

co-channel and adjacent channel spectrum users (including broadcasters) and permit more frequent spectrum reuse. The Commission's decision to limit effective radiated power (ERP) to 300 watts for land mobile operators in the 150-174 and 450-470 MHz bands is a good first step. However, the Commission should consider mandating even lower limits.

The Commission proposes authorizing trunked operations. Notice, at ¶ 24. As it has in the past, see Comments of MSTV, PR Docket No. 84-232, at 11-13 (Dec. 19, 1985), MSTV continues to support trunking. Trunking will permit increased efficiency in land mobile spectrum use, and should be implemented where feasible. Trunking, in conjunction with other reforms such as minimum loading requirements, will ensure that spectrum assigned to land mobile services is fully utilized.

Finally, the Commission should be careful to ensure that the changes in land mobile spectrum utilization brought about by the Commission's spectrum efficiency program do not increase adjacent and co-channel interference to broadcasting services. More extensive use of existing spectrum through narrowbanding may create a new generation of interference problems; this assumption should be thoroughly investigated before the land mobile community invests substantial monies in new equipment. See Reply Comments of Joint Petitioners for Special Relief, General Docket No. 85-172, at 10-11 (July 31, 1987); Preliminary and Partial Study of the Use of the UHF

Band to Accommodate Local High Definition Television, General Docket No. 85-172, at 14 (Mar. 10, 1987); see also Association of Maximum Service Television Service, Petition for Inquiry (October 4, 1989); Comments of MSTV, General Docket No. 85-172, at 2-17 (July 11, 1986).

II. The Refarming Process Should Ultimately Include Land Mobile Spectrum in Bands Above 512 MHz and Also Include a "Give-Back" of Television Broadcast Spectrum Currently Allocated to Land Mobile Uses.

A. The Refarming of Land Mobile Spectrum Should Be Comprehensive.

As noted above, refarming land mobile spectrum below 512 MHz will increase channel capacity from 300 to 500 percent, depending on the final bandwidth selected for each channel. Improvements of this magnitude in the efficiency of spectrum use are all too rare. This is doubly so when significantly increased efficiency can be obtained by simply implementing an existing technology.

In light of the substantial benefits that accompany refarming land mobile spectrum, it is clear that the Commission should also refarm land mobile spectrum above 512 MHz. There is 40 MHz of spectrum in the 800 MHz band currently in use by land mobile stations, or more than 60 percent of the total land mobile spectrum. Although MSTV realizes that the Commission's ability to facilitate reform has limits, and that a necessary consequence of this reality is that the Commission must establish priorities for every reform program, there is simply no good reason for excluding

At the time the Commission decided to initiate

reforms. However, the Commission must complete the task that it has undertaken by refarming land mobile spectrum above 512 MHz.

The Commission's refarming proposals will clearly result in significant spectrum savings -- savings that will accommodate additional land mobile operations. Narrowbanding, in conjunction with other reforms, such as reduced broadcast strength, minimum loading requirements, and trunking, can effectively eliminate the overcrowding problems that some land mobile operators claim presently exist. With the advent of

hands. Reform is long overdue, and the Commission is to be commended for undertaking a comprehensive overhaul of land mobile spectrum below 512 MHz.

Respectfully submitted,

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May 28, 1993